$$E[\hat{\theta} \times s(\theta)] = \sum f(\mathbf{x} \mid \theta) \hat{\theta}(\mathbf{x}) \frac{1}{f(\mathbf{x} \mid \theta)} \frac{\partial}{\partial \theta} f(\mathbf{x} \mid \theta) = \frac{\partial}{\partial \theta} \sum \hat{\theta}(\mathbf{x}) f(\mathbf{x} \mid \theta)$$